AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A device for determining ~~the~~ a position of a vehicle on a roadway by using radio waves which are emitted from the device and reflected by the vehicle and received by at least two array antennas ~~(1, 2)~~ arranged across the roadway, ~~characterized in that~~ comprising:

each of the array antennas ~~(1, 2) comprise~~ including a number of antenna elements ~~(5-14)~~, one of the antenna elements in the respective array antenna constituting ~~the~~ a phase center ~~(5, 10)~~ of the array antennas, and

wherein the antenna elements ~~(5-14)~~ of the array antennas are connected to one another such that ~~the~~ a distance ~~(d)~~ between the phase centers ~~(5, 10)~~ of the array antennas ~~(1, 2)~~ included is smaller than half the width of an individual array antenna ~~(1, 2)~~.

2. (currently amended) ~~A~~ The device according to claim 1, ~~characterized in that~~ wherein the connection comprises interweaving the array antennas ~~(1, 2)~~ with each other in that the phase center ~~(5, 10)~~ of one array antenna is arranged among the antenna elements ~~(11-14, 6-9)~~ of another array antenna ~~(1, 2)~~.

3. (currently amended) ~~A~~ The device according to claim 2, ~~characterized in that~~ wherein the phase centers ~~(5, 10)~~ of the respective array antennas ~~(1, 2)~~ are placed close to each other.

4. (currently amended) ~~A~~ The device according to claim 2, ~~characterized in that~~ wherein some of the antenna elements ~~(24-38)~~ are at the same time connected to more than one array antenna ~~(21, 22, 23)~~.

5. (currently amended) ~~A~~ The device according to claim 4, ~~characterized in that~~ wherein signals obtained from antenna elements ~~(24-38)~~ which are utilized by more than one array antenna ~~(21, 22, 23)~~ undergo a power amplification, followed by a power division of the amplified signal on the respective array antenna ~~(21, 22, 23)~~.

6. (currently amended) ~~A~~ The device according to any of the preceding claims, ~~characterized in that~~ wherein an azimuth angle θ to the vehicle ~~(3)~~ is determined from an antenna position where at least one pair of substantially horizontally arranged array antennas ~~(1, 2)~~ is arranged.

7. (currently amended) ~~A~~ The device according to claim 6, ~~characterized in that~~ wherein an angle of elevation to the vehicle ~~(3)~~ is determined from ~~an~~ the antenna position where at least one pair of substantially vertically arranged array antennas is arranged.

8. (currently amended) ~~A~~ The device according to claim 7, ~~characterized in that~~ wherein the position of the vehicle in

relation to the antennas is determined by means of knowledge of the azimuth angle θ and the angle of elevation.